

[54] **ACQUISITION SCHEME AND RECEIVER FOR AN ASYNCHRONOUS DS-CDMA CELLULAR COMMUNICATION SYSTEM**

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[58] **Field of Search** ..... 370/320, 328, 370/331, 335, 441, 442, 350; 375/200, 206, 207, 208, 209, 210; 455/422, 436, 437, 438, 439

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[57] **ABSTRACT**

The present invention realizes a rapid and efficient cell search and small-size instrument for an asynchronous DS-CDMA cellular system. This cell search detects the correlation between the received signal and the short code of the control channel, and matched filter 22 detects the maximum electric power correlation peak location. Next, using correlators 28-1 to 28-n which are parallelly set in a plurality of that is set in the system with the detected long code timing. After the long code is synchronized, a multipath signal is received using 28-1 to 28-n, and the data is judged by RAKE processing. When peripheral cell search is executed, after long code timing is detected by using matched filter 22, the long code of the candidate peripheral cell is designated using the same matched filter. Handover is safely realized by receiving the signal from the connected base station by correlators 28-1 to 28-n, and the base station signal through handover by 22.

**7 Claims, 8 Drawing Sheets**

